

WHAT IS CLAIMED IS:

1. A method for controlling bladder discharge in a patient, comprising the steps
5 of:

coupling a first electrode to a sacral ventral root of said patient;

coupling a second electrode to a sacral dorsal root corresponding to
10 said ventral root of said patient;

and transmitting a series of stimulus pulses to said first and second
electrodes simultaneously to cause discharge of the bladder

- 15 2. The method of claim 1 wherein said first electrode comprises a self-sizing cuff
electrode.

3. The method of claim 1 wherein said second electrode comprises a self-sizing
cuff electrode.

- 20 4. The method of claim 1 wherein said second electrode comprises a surface
electrode.

5. The method of claim 1 wherein said stimulus pulses transmitted to said first
25 electrode comprise a quasitrapezoidal pulse train at 20 Hz.

6. The method of claim 1 wherein said stimulus pulses transmitted to said first electrode comprise a conventional rectangular pulse train at 20 Hz.

7. The method of claim 1 wherein said stimulus pulses transmitted to said second electrode comprise an intermittent pulse train at 20 Hz having a one second on/ 1 second off pattern.

8. The method of claim 1 wherein said first and second electrodes are applied to the dorsal and ventral roots of the S3 sacral nerve.

9. The method of claim 1 wherein said stimulus pulses transmitted to said second electrode have a nominal amplitude of less than 1 ma and a pulse duration of 10 to 100 μ sec.

10. The method of claim 1 wherein said stimulus pulses transmitted to said first electrode have a nominal amplitude of 1 ma and a pulse duration of 350 to 500 μ sec.

11. An apparatus for the control of bladder function in a patient by combined stimulation of ventral and dorsal sacral roots, said apparatus comprising:

a first electrode, applied to a ventral sacral root of a patient;

a second electrode, applied to a dorsal sacral root corresponding to

said ventral sacral root;

and control means, electrically coupled to said first and second electrodes, for generating a series of stimulus pulses simultaneously to said first and second electrodes sufficient to cause the bladder of said patient to contract, whereby emptying said bladder.

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10 12. The apparatus of claim 11, wherein said first electrode comprises a self-sizing cuff electrode.

13. The apparatus of claim 11, wherein said second electrode comprises a self-sizing cuff electrode.

14. The apparatus of claim 11, wherein said second electrode comprises a surface mounted electrode.

15 15. The apparatus of claim 11, wherein said stimulus pulses generated to said first electrode by said control means comprises a quasitrapezoidal pulse train at 20 Hz.

20 16. The apparatus of claim 11, wherein said stimulus pulses generated to said second electrode by said control means comprise an intermittent pulse train pattern of 1 second off/ 1 second on.

17. The apparatus of claim 11, wherein said stimulus pulses generated to said first electrode by said control means have a nominal amplitude of 1 ma and a pulse duration of 350 to 500 μ sec.

18. The apparatus of claim 11, wherein said stimulus pulses generated to said second electrode by said control means have a nominal amplitude of less than 1 ma and a pulse duration of 10 to 100 μ sec.